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0000193692

Direct Line: (602) 542-3625
Email: Tobin-Web@azcc.gov

Arizona Corporation Commission
DOCKETED

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ARIZONA CORPORATION COMMISSION

November 14, 2018

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RE: EVALUATING ARIZONA'S CURRENT AND FUTURE BASELOAD SECURITY (E-00000Q-17-0293)

Dear Chairman Forese and Commissioners,

As you have all heard at the 2018-19 Winter Preparedness meeting, our natural gas pipelines are near maximum capacity, and we have two years to find a solution.

Regulated utilities in this state are heavily reliant on natural gas for maintaining affordable and reliable energy service. Southwest Gas, the state's largest gas provider, serves over 1 million residential commercial customers and delivers over 400 million cubic feet of natural gas supply to Arizonans per day during peak winter months.[1] Additionally, our two largest electric utilities, Arizona Public Service (APS) and Tucson Electric Power (TEP), have over 3,500MW of natural gas capacity serving the Phoenix and Tucson load pockets today, with another 5,500MW of natural gas capacity planned by 2032.[2] As coal resources are retired across the state, and more intermittent renewables are deployed in their place, our regulated utilities state that use of natural gas will be essential to maintaining a healthy, reliable grid for Arizona.[3]

Despite the current and projected reliance on natural gas to power the state however, there are very real concerns that fuel disruptions and over-utilization of existing capacity could impact our utilities' ability to deliver reliable power and citizens' ability to receive affordable electricity service. Arizona produces little, if any, natural gas in-state and instead relies on a limited number of pipelines, which import fuel from states like Texas and New Mexico, to supply our power generation needs domestically.[4] According to APS, "Natural gas pipeline capacity presents the greatest fuel risk to APS."[5] Presumably, the same is true for other utilities as well.

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[1] *See* Southwest Gas, Arizona Winter Preparedness Presentation (Nov. 8, 2018).

[2] *See* Arizona Public Service Company, 2017 Integrated Resource Plan, PDF available at: https://www.aps.com/library/resource%20alt/2017IntegratedResourcePlan.pdf (APS IRP); Tucson Electric Power, 2017 Integrated Resource Plan, PDF available at: https://www.tep.com/wp-content/uploads/2016/04/TEP-2017-Integrated-Resource-FINAL-Low-Resolution.pdf (TEP IRP).

[3] *See e.g.*, TEP IRP, p. 184 ("As TEP reduces its reliance on coal, cleaner, more efficient natural gas will play a bigger role in maintaining the Company's grid operations."); *see generally,* Pace Global, Assessment of the Clean Power Plan (Nov. 21, 2014) (finding that increased renewable penetration increases intermittency and thus requires an increase in natural gas peaking supply and capacity), PDF available at: https://www.ferc.gov/CalendarFiles/20150220105928Arizona%20Utility%20Group,%20Assessment%20of%20Clean%20Power%20Plan.pdf (Pace Global).

[4] *See* Kinder Morgan, El Paso Natural Gas Pipeline 2018-19 Winter Preparedness Presentation (Nov. 8, 2018) (Kinder Morgan Presentation) (identifying Arizona's primary supplies as coming from the San Juan Basin in New Mexico and Permian Basin in Texas).

[5] APS IRP, p.203.

According to the Western Electricity Coordinating Council (WECC), disruptions arising from things like extreme weather events, pipeline ruptures, and power outages that limit compression could have a major economic and public safety impact on our state.[6] This threat is especially concerning considering that, even during normal operations, one of the two major pipelines feeding Arizona is already at near-capacity year-round and the other is also nearly maxed-out during peak periods.[7] Because our utilities depend on these pipelines,[8] I feel there is little room for error on our system, and I worry that the Desert's Southwest's unique configuration of gas infrastructure, particularly of its clustering of plants near Phoenix,[9] make our situation tenuous.[10]

Beyond threats of system failure, market pressures appear add an additional element of planning that should be considered. While there is seemingly no shortage of gas supply being produced in the U.S., expanded demand and increasing exports to Mexico,[11] economic and population growth in the Desert Southwest, and an overall shift away from coal power, could pose problems for our state in maintaining an affordable and reliable grid.[12] As an earlier report from Pace Global stated: "A more than three-fold increase in natural gas demand by the power sector alone would be expected by the early 2020s, driving the need for pipeline upgrades. Without additional pipeline infrastructure that can take four or more years to develop and construct, current pipeline capacity would be overwhelmed, and electric, as well as consumer natural gas, reliability and deliverability could be severely compromised."[13] According to the WECC, the challenges Pace Global describes will occur in as soon as 2021.[14]

Given the magnitude of the risks, and the fact that APS and TEP both plan to deploy more than 3,000MWs of their expected natural gas additions within the next 5 years,[15] of which 5 fast-start flexible-generation units are to come online in as soon as the second-quarter of next year,[16] it is

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[6] *See* Western Area Coordinating Council, Western Interconnection Gas – Electric Interface Study: Public Report Presentation (Nov. 8, 2018) (WECC Presentation) (Summarizing the results of a 2017 reliability study on the Western Interconnection and finding that unrisked economic impacts could exceed $27 billion).

[7] *See* Pace Global, p.8; *see also* Kinder Morgan's Statements During the Arizona Corporation Commission 2018-19 Winter Preparedness Meeting, (stating that throughout on the El Paso Natural Gas pipelines has been increasing in the last three years, causing zero usable line pack and no room for short-term hourly support).

[8] *See* APS IRP, p.205 (stating that all of its natural gas plants are served by the El Paso and Transwestern pipelines); TEP IRP, p.184 ("TEP relies on the El Paso and Transwestern pipeline networks to deliver natural gas primarily from the San Juan and Permian supply basins to support its long-term, as well as real-time power generation needs").

[9] *See* WECC Presentation (characterizing Phoenix's natural gas plants as an isolated "island"); Kinder Morgan Presentation (showing its Maricopa Lateral, Havasu Lateral, and El Paso South pipelines, which transport supplies to the Phoenix metropolitan area, as "high utilization" paths).

[10] *See* Pace Global, p.27 ("NERC specifically identifies Arizona as one state whereby the existing pipeline capacity is not adequate to handle incremental gas needs of the state.") and p.24 (Concurring with NERC that the current pipeline system would be inadequate to serve all demand during periods of peak usage).

[11] *See* id., p.24 & 33 (stating that liquefied natural gas and pipeline exports to Mexico are rising rapidly).

[12] *See* id. ("The gas-fired capacity expected to be built by 2020 will be contending with several large new sources of demand (e.g., LNG and pipeline exports, industrial projects), which will put upward price pressure on natural gas. This significant increase in natural gas demand coupled with inadequate natural gas storage and transportation infrastructure will ultimately lead to higher natural gas and power price volatility in the Desert Southwest.").

[13] Id, p.8.

[14] *See* WECC Presentation ("Planning to meet gas burn in 2021 is the immediate challenge.").

[15] *See* APS IRP; TEP IRP.

[16] *See* Pinnacle West Capital Corporation, Statements of Don Brandt During 3rd Quarter 2018 Pinnacle West Capital Corporation Earnings Conference Call, at 00:04:23 (Nov. 8, 2018) (Stating that 5 fast-start, flexible-generating units are on-track to be completed at the Ocotillo Power Plant by the end of 2nd Quarter, 2019), audio recording available at: https://event.on24.com/eventRegistration/console/EventConsoleApollo.jsp?&eventid=1824015&sessionid=1&username=&partnerref=&format=fhaudio&mobile=false&flashsupportedmobiledevice=false&helpcenter=false&key=DEF2655C76E5A4FF65B4D005E6948153&text_language_id=en&playerwidth=1000&playerheight=650&overwritelobby=y&eventuserid=221033012&contenttype=A&mediametricsessionid=181000212&mediametricid=2568899&usercd=221033012&mode=launch.

clear to me that we must address our state's capacity issues immediately to avoid potentially costly and dangerous disruptions to our power systems.

One possible solution posed by various stakeholders has been to develop a large-scale natural gas storage facility within the state.[17] While this may not be the exclusive solution for our future infrastructure needs, I feel that we should evaluate it in greater detail, as soon as possible. As Kinder Morgan has stated, "The time for making infrastructure decisions is now. In the absence of a timely decision on developing this project, the window for developing a long lead-time project like market area storage will begin to close. Soon thereafter, Arizona may find itself lacking the energy infrastructure to efficiently and economically meet the needs of its residents."[18] I feel Kinder Morgan's assessment of the window aligns closely with the WECC's 2021 forecast.

According to the industry, market area storage can be a valuable driver of grid reliability mitigating a multitude of pipeline operational constraints.[19] However, in Arizona there are currently no such storage facilities,[20] and the closest such facility is located over 500 miles away.[21] Although our utilities have shown some interest in natural gas storage options in the past,[22] it is unclear where they stand today and into the future,[23] and I would appreciate hearing more from them on how they currently view such technology.

Having been briefed on these issues, and with the Commission's moratorium on new natural gas expenditures coming to an end in January 2019, I would like to know what our utilities have budgeted their total capital expenditures to be in the next two years (for new natural gas capacity and supporting facilities), as well as information that answers these related questions:

- Of the more-than-3,000MW of natural gas additions APS and TEP plan to add within the next 5 years, how much of that capacity is expected to occur within the next two years?

- What do utilities forecast their peak natural gas consumption will be two years from now (in average billions cubic feet per day during peak demand)?

- Do the utilities perceive any risks associated with the current number of pipelines, storage options, or capacity utilizations available in the next two years?

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[17] *See* TEP IRP, p.184 ("On January 31, 2017, Kinder Morgan issued an open season for an Arizona based natural gas storage project"); Kinder Morgan, Letter to the Commission (Oct. 30, 2018) (referring to its gas storage project).
[18] Kinder Morgan, Letter to the Commission, p.2 (Oct. 30, 2018).
[19] *See* WECC Presentation ("Market area underground storage is a key resource. The availability of gas storage facilities located in key demand basins significantly decreases the impact of a Desert Southwest pipeline disruption."); Kinder Morgan, Arizona Gas Storage Project: Frequently Asked Questions, ("Access to a closer, more stable gas supply would help reduce energy distribution costs and allow utilities to respond to consumer demand in real time"); TEP IRP, p. 184 ("Natural gas storage provides a reliability backstop to a multitude of pipeline operational constraints that can impact the delivery of natural gas.").
[20] *See e.g.*, TEP IRP, p. 184 ("In Arizona there are currently no natural gas storage facilities.").
[21] *See* Kinder Morgan, Arizona Gas Storage Project: Frequently Asked Questions.
[22] *See* TEP IRP, p. 184 ("As part of the Company's 2017 IRP integration strategy, TEP is in the process of evaluating local natural gas storage as a resource which may in improve TEP's system reliability by meeting its future hourly gas balancing and generation ramping requirements as the Company integrates higher levels of renewable resources"); APS IRP, p.147 ("APS is exploring potential options to develop a natural gas storage facility to add capacity, enhance reliability and increase flexibility.").
[23] *See* TEP IRP, p. 184 ("TEP is still evaluating the proposal from Kinder Morgan.").

- What are the most recent updates on APS's 2016 Natural Gas Infrastructure Strategy assessment and the study Concentric performed analyzing total pipeline capacity and future forecasted natural gas transportation availability?

- What is the most recent update from APS on its exploration of potential options to develop a natural gas storage facility in Arizona "to add capacity, enhance reliability and increase flexibility," as stated in its 2017 Integrated Resource Plan?

- Is there enough interest from Arizona's utilities and/or potential natural gas customers in Mexico to move forward with a gas storage project in Arizona, or will any existing proposals be dropped?

- Do Arizona's utilities believe market-area gas storage in Arizona is a necessary tool to firm our state's natural gas supplies and ensure energy reliability and security in the next two years, or not?

With these questions in mind, I am writing to ask that an agenda item be listed on the December 17, 2018, open meeting to discuss and hear from the utilities on these serious energy security and reliability matters before the end of the year. I would also invite any other interested parties with additional questions for our utilities to file them in this docket.

Sincerely,

Andy Tobin
Commissioner

On this 14th day of November, 2018,the foregoing document was filed with Docket Control as a Correspondence From Commissioner, and copies of the foregoing were mailed on behalf of Andy Tobin, Commissioner - A.C.C. to the following who have not consented to email service. On this date or as soon as possible thereafter, the Commission's eDocket program will automatically email a link to the foregoing to the following who have consented to email service.

Arizona Corporation Commission
E-00000Q-17-0293

Amanda Ormond
WESTERN GRID GROUP
2303 N. TImberline ROad
Flagstaff AZ 86004
amanda@westerngrid.net

Consented to Service by Email

Jennifer A. Cranston
GALLAGHER & KENNEDY, P.A
2575 E. Camelback Rd.
Suite 1100
Phoenix AZ 85016-9225
lgernet@azgt.coop

jennifer.cranston@gknet.com

Consented to Service by Email

Melissa Krueger
Pinnacle West Capital Corporation
400 North 5th Street, MS 8695
Phoenix AZ 85004
Melissa.Krueger@pinnaclewest.com

Kerri.Carnes@aps.com

Debra.Orr@aps.com

Consented to Service by Email

Patrick J. Black
Fennemore Craig, P.C.
2394 E. Camelback Rd, Ste 600
Phoenix AZ 85016
pblack@fclaw.com

Consented to Service by Email

Thomas J. Pyle
INSTITUTE FOR ENERGY RESEARCH
1155 15th St. NW, Suite 900
Washington DC 20005

Dan Byers
GLOBAL ENERGY INSTITUTE
1615H. St NW
Washington DC 20062

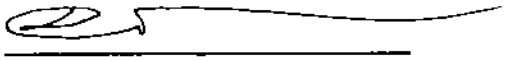
Logan Gernet
Arizona Electric Power Cooperative
1000 S. Highway 80
Bendson AZ 85602

Michael E Sheehan
88 E. Broadway Blvd. MS HQW803
Tucson AZ 85701

Robin Mitchell
ARIZONA CORPORATION COMMISSION
Director- Legal Division
1200 West Washington
Phoenix AZ 85007
legaldiv@azcc.gov

utildivservicebyemail@azcc.gov

Consented to Service by Email

By: 

Daniel Schwiebert
Deputy Policy Advisor to
Commissioner Andy Tobin